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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,919

09/29/2006

Kenji Mori

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2292 7590 02/18/2009
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EXAMINER

BOSWORTH, KAMI A

ART UNIT

PAPER NUMBER

3767

NOTIFICATION DATE

DELIVERY MODE

02/18/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No. 10/594,919	Applicant(s) MORI ET AL.	
	Examiner KAMI A. BOSWORTH	Art Unit 3767	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is responsive to the amendment filed on 12/18/2008. As directed by the amendment, claims 1, 2, 4, 6, 8, and 10 have been amended. Thus, claims 1-10 are presently pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

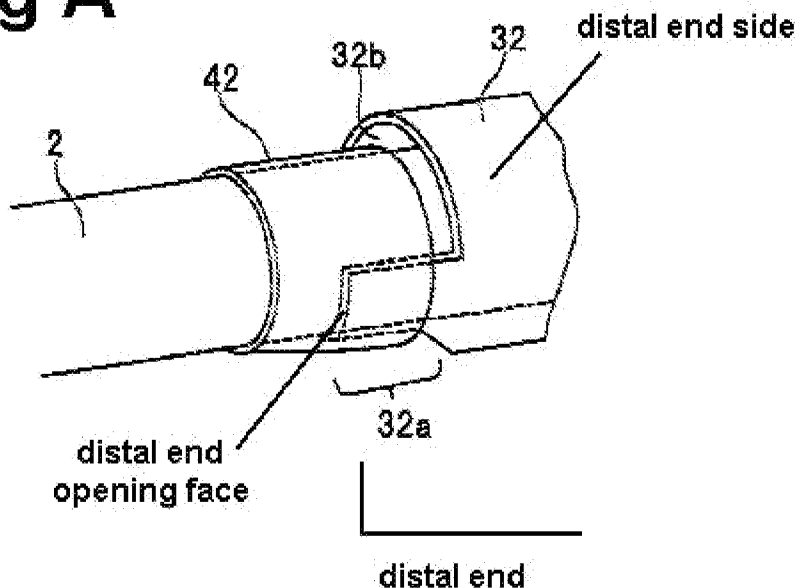
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 6, 7, and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Nobuyoshi et al. (US Pat 6,447,479).

5. Re claim 6, Nobuyoshi et al. disclose a balloon catheter 1 (Fig 1) comprising: a balloon part 9 (Fig 1) able to be inflated and deflated, an outer tube 32 (Fig 1) with a distal end (best seen in Fig A below) connected to a proximal end of said balloon part (via connecting piece 31, Fig 2) so as to introduce and guide out pressurized fluid inside of said balloon part, and an inner tube 2 (Fig 5) to which a distal end of said balloon part

Art Unit: 3767

9a (Fig 5) is connected extending along the insides of said balloon part and said outer tube in the axial direction (as seen in Fig 10), wherein the distal end of said outer tube is formed with a cut 32b (Fig 11) that extends in the circumferential direction of said outer tube at a predetermined distance away from a distal end opening face (best seen in Fig A below) of said outer tube toward the proximal end, an engagement hole enabling insertion of said inner tube is formed by part of the wall of said outer tube positioned in the distance from said cut to said distal end opening face, constituting a cut piece 32a (Fig 11), being pushed in toward the inside of said outer tube (via heat-shrink tube 42, Fig 5; Col 9, Lines 50-57), and said inner tube is inserted in said engagement hole for engagement with the inside wall of said outer tube (Col 9, Lines 56-57).

Fig A

Art Unit: 3767

6. Re claim 7, Nobuyoshi et al. disclose that the distal end opening face of said outer tube forms an acute angle with a longitudinal axis of said outer tube (Col 9, Lines 20-23; Fig 7).

7. Re claim 8, Nobuyoshi et al. disclose that said engagement hole is formed with said cut piece positioned so that it protrudes from the distal end opening face of said outer tube to a distal end side (best seen in Fig A above).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-5, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nobuyoshi et al. (US Pat 6,447,479) in view of Schock (US Pat 6,830,559).

10. Re claim 1, Nobuyoshi et al. disclose an intra-aortic balloon catheter 1 (Fig 1) comprising: a balloon part 9 (Fig 1) adapted to be inserted inside the aorta, an outer tube 32 (Fig 1) with a distal end (best seen in Fig A above) connected to a proximal end of said balloon part (via connecting piece 31, Fig 2) to introduce and guide out pressurized fluid inside of said balloon part, and an inner tube 2 (Fig 5) to which a distal end of said balloon part 9a (Fig 5) is connected and extending through the insides of said balloon part and said outer tube in the axial direction (as seen in Fig 10), an engagement means 42 engages said inner tube with the inside wall of said outer tube at

Art Unit: 3767

the distal end of said outer tube (Col 9, Lines 50-57), the engagement means includes an engagement hole (formed by wall 32a, Fig 11) formed at the distal end of the outer tube, and said inner tube is inserted in said engagement hole for engagement with the inside wall of said outer tube (Col 9, Lines 56-57). Nobuyoshi et al. discloses that said inner tube is fused with the inside wall of said outer tube (via heat-shrinkable tube 42, Fig 11) but does not disclose that it is fused over a length of 50% or greater of the total length from the distal end of the outer tube. Schock, however, teaches an inner tube 123 (Fig 2) fused over a length of at least 50% of the total length of an outer tube 118 (Fig 2) (Col 5, Lines 26-30) for the purpose of securely connecting the tubes (Col 5, Lines 26-30). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nobuyoshi et al. to include attachment of the tubes over a length of at least 50%, as taught by Schock, for the purpose of securely connecting the tubes (Col 5, Lines 26-30). Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include attachment over a length of at least 50% since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

11. Re claim 2, Nobuyoshi et al. disclose that the distal end of said outer tube is formed with a cut 32b (Fig 11) that extends in the circumferential direction of said outer tube at a predetermined distance away from a distal end opening face of said outer tube toward the proximal end, and

the engagement hole, enabling insertion of said inner tube, is formed by part of the wall

Art Unit: 3767

of said outer tube positioned in the distance from said cut to said distal end opening face, constituting a cut piece 32a (Fig 11), being pushed in toward the inside of said outer tube (via heat-shrinkable tube 42, Fig 11).

12. Re claim 3, Nobuyoshi et al. disclose that the distal end opening face of said outer tube forms an acute angle with a longitudinal axis of said outer tube (Col 9, Lines 20-23; Fig 7).

13. Re claim 4, Nobuyoshi et al. disclose that said engagement hole is formed with said cut piece positioned so that it protrudes from the distal end opening face of said outer tube to a distal end side (best seen in Fig A above).

14. Re claims 5 and 9, Nobuyoshi et al. disclose all the claimed features except that the outside diameter of said inner tube positioned at the distal end side from said engagement means is larger than the outside diameter of said inner tube positioned at the proximal end side from said engagement means. Schock, however, teaches a substantially similar device wherein the outside diameter of an inner tube 123 (Fig 4) positioned at the distal end side 132 (Fig 4) from engagement means (embedding in column tube 118; Col 4, Lines 64-66) is larger than the outside diameter of said inner tube positioned at the proximal end side 130 (Fig 4) from said engagement means (Col 5, Lines 4-9) for the purpose of assuring adequate stiffness of the inner tube to resist excessive movement (Col 5, Lines 22-25). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nobuyoshi et al. to include an inner tube with changing diameter, as taught by Schock, for the

Art Unit: 3767

purpose of assuring adequate stiffness of the inner tube to resist excessive movement (Col 5, Lines 22-25).

15. Re claim 10, Nobuyoshi et al. disclose all the claimed features except a method of assisting heart function. Schock, however, teaches a method of assisting heart function comprising: carrying out intra-aortic balloon pumping by inserting a balloon part inside the aorta and inflating and deflating the balloon part (Col 1, Lines 17-31) for the purpose of augmenting the pumping action of the heart (Col 1, Lines 17-19). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Nobuyoshi et al. to include a method of assisting heart function, as taught by Schock, for the purpose of augmenting the pumping action of the heart (Col 1, Lines 17-19).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAMI A. BOSWORTH whose telephone number is (571)270-5414. The examiner can normally be reached on Monday - Thursday, 7:00 am to 4:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Simons can be reached on (571)272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3767

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. A. B./

Examiner, Art Unit 3767

/Kevin C. Sirmons/

Supervisory Patent Examiner, Art Unit 3767